

Remarks

Claims 1-24 are pending in this application, and, in view of the foregoing, further and favorable consideration is respectfully requested.

Claim Rejections - 35 USC § 103

Claim 1 has been rejected as being unpatentable over U.S. Patent No. 6,278,363 to Bezek in view of U.S. Patent No. 5,472,032 to Winston and U.S. Patent No. 5,111,585 to Kawashima.

Bezek is directed towards notifying a driver of an under-inflated condition in a "run-flat" tire so that he/she can seek appropriate maintenance and repair.¹ To this end, the Bezek system/method comprises a pressure sensor that provides pressure data associated with a particular tire at an unknown relative position on the vehicle and a physical parameter sensor (*i.e.*, an inertial sensor, an accelerometer, a lateral force detector, an accelerometer sensitive to lateral force, etc.) that provides information about the motion of a particular wheel on the vehicle. This data/information is then evaluated to provide the vehicle's operator with an indication that the air pressure of the particular tire at the relative mounting position is less than the proper air pressure so that peak vehicle performance and necessary maintenance may be obtained.

Winston is directed towards the problem of the "unwillingness" of car/truck drivers "to monitor and maintain proper tire inflation" with "a filling station pressurized air supply or pump." To solve this problem, Winston proposes an apparatus for establishing and/or maintaining a predetermined gas pressure within a tire or other plenum.

Kawashima is directed towards a wheel alignment testing apparatus in which a car is elevated on a frame so that alignment measuring and adjustments may be performed.

The Examiner contends that it would have been obvious to modify the Bezek notification system to include the Winston maintenance system (for the purpose of maintaining and regulating pressure within in a tire) and further modify the Bezek notification system to include non-pressure related data as taught by Kawashima.

With all due respect, modifying a Bezek-like system to include the Kawashima-like "alignment" measurements is not fairly taught by the prior art. While it is true that Kawashima teaches a method and apparatus that enables efficient and accurate

1. A vehicle operator may be unaware that a run-flat tire has lost its air pressure from visual inspection because of the construction of the run-flat tire. The run-flat tire generally handles adequately and has greatly superior handling characteristics in comparison to a conventional flat tire that has lost air pressure. However, a vehicle operator may be unaware in the deterioration of the handling characteristics of a vehicle due to the loss of air pressure in the run-flat tire.

alignment of vehicle wheels, there is absolutely no teaching as to how such alignment measurements could be gathered in a Bezek-like (and/or Winston-like) system. Moreover, such measurements would not appear to be useful, since alignment adjustments would seem to be difficult to make in an operating vehicle.

Claims 2-11 have been rejected as being unpatentable over U.S. Patent No. 6,278,363 to Bezek in view of U.S. Patent No. 5,472,032 to Winston and U.S. Patent No. 5,111,585 to Kawashima and further in view of U.S. Patent No. 4,582,108 to Markow. It is initially noted that these claims depend from claim 1 and that Markow does nothing to cure the above-discussed shortcomings of the Bezek/Winston combination. For this reason alone, claims 2-11 are believed to be patentable over the applied art.

Additionally, claims 2 and 3 set forth that the pressure-maintaining step comprises the step of releasing gas from the tire if the tire pressure exceeds the desired test pressure by about 1/36 psi. Claims 4-9 set forth the step of adjusting the tire pressure if the measured tire pressure is above or below the desired test pressure by less than about 1/4 psi (claims 4 and 7-9), less than about 1/16 psi (claim 5) and/or by about 1/36 psi (claim 6).² The Examiner comments that "it is obvious that any ordinary artisan skilled in the art can program a sensor to compare, adjust, and/or release a gas at any given specific tire pressure." It is respectfully submitted that the question is not whether an ordinary artisan could program a sensor to make precise adjustments, but rather whether the prior art would motivate such an ordinary artisan to do so. Nothing in the prior art has been found to even remotely suggest any application requiring such precise adjustments. Accordingly, the motivation for making such precise adjustments is taught only by applicant's specification, whereby the proposed combination is based on hindsight, rather than the teachings of the prior art at the time of applicant's invention.

Claims 12-19, 21, and 23-24 have been rejected as being unpatentable over U.S. Patent No. 5,472,032 to Winston. These claims set forth a pressure-controlling device, wherein a controller opens a valve when the difference between the measured pressure and the desired test pressure is less than 1/4 psi (claims 12, 17-19 and 21), less than 1/8 psi (claim 13), less than 1/16 psi (claim 14), less than 1/32 psi (claim 15), and/or about 1/36 psi (claim 16). With particular reference to claim 18, it sets forth that

2. Claim 3 sets forth a motion detector to determine whether the tire/wheel assembly is at rest, and claim 9 sets forth that the adjusting step is performed when the vehicle is at rest between test runs. The Examiner contends in the Office Action that Markow "discloses a motion detector that determines if a tire is at rest (9,143)." The Examiner's assistance is respectfully requested in pointing to the passage where this motion detector is disclosed in the Markow reference so that this rejection may be more fully addressed.

the controller opens the valve to adjust the pressure if the measured pressure is less than the desired test pressure. Winston, which is directed towards the problem of the "unwillingness" of car/truck drivers "to monitor and maintain proper tire inflation" with "a filling station pressurized air supply or pump," does not show or suggest such precise pressure adjustments and/or pressure increasing steps. The Examiner contends that "where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art." However, Winston does not disclose any "general conditions" related to such fine pressure adjustments, and the claimed ranges would not be considered "optimum" or "workable" for the "general conditions" with which Winston is concerned.

Claims 20 and 22 have been rejected as being unpatentable over U.S. Patent No. 5,472,032 to Winston in view of U.S. Patent No. 6,278,363 to Bezdek. Claim 20 depends from claim 12, and neither Bezdek nor Markow are believed to show or suggest pressure adjustments in the range of 1/4 psi, whereby claim 20 is believed to be patentable over the applied art for this reason alone. Furthermore, claim 20 sets forth a motion detector for detecting when the vehicle is in motion, and that the controller adjusts the pressure when the motion detector indicates that the vehicle is at rest. Whatever information the Markow "physical parameter sensor" and/or inertial rotational sensor" may provide, there does not appear to be any suggestion in the prior art that a controller should adjust the pressure when a motion detector indicates that the vehicle is at rest.

Regarding claim 22, it discloses a method of testing a tire of a tire/wheel assembly rotated during multiple test runs to evaluate dynamic tire performance. The method comprises the steps of mounting the pressure-controlling device of claim 12 onto the tire/wheel assembly to maintain the pressure during multiple test runs, taking test measurements while the tire/wheel assembly vehicle is rotated during the multiple test runs, and compiling data from the multiple test runs to evaluate tire performance. As was discussed above, neither Winston nor Bezdek are believed to show or suggest such precise pressure adjustments in the range of less than about 1/4 psi.

Conclusion

This application is now in condition for allowance and an early action to that effect is earnestly solicited.

Respectfully submitted,

RENNER, OTTO, BOISSELLE & SKLAR, LLP

By *Cynthia S. Murphy*
Cynthia S. Murphy, Reg. No. 33,430

1621 Euclid Avenue
Nineteenth Floor
Cleveland, Ohio 44115
(216) 621-1113

CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this paper (along with any paper or thing referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: October 21, 2003

Marian E. Vasquez
Marian E. Vasquez

R:\CSM\FIRE\P9910112\P9910112US.r04.reply.wpd